

FIG. 1

16a

# Quadrature Mach-Zehnder Modulation Device

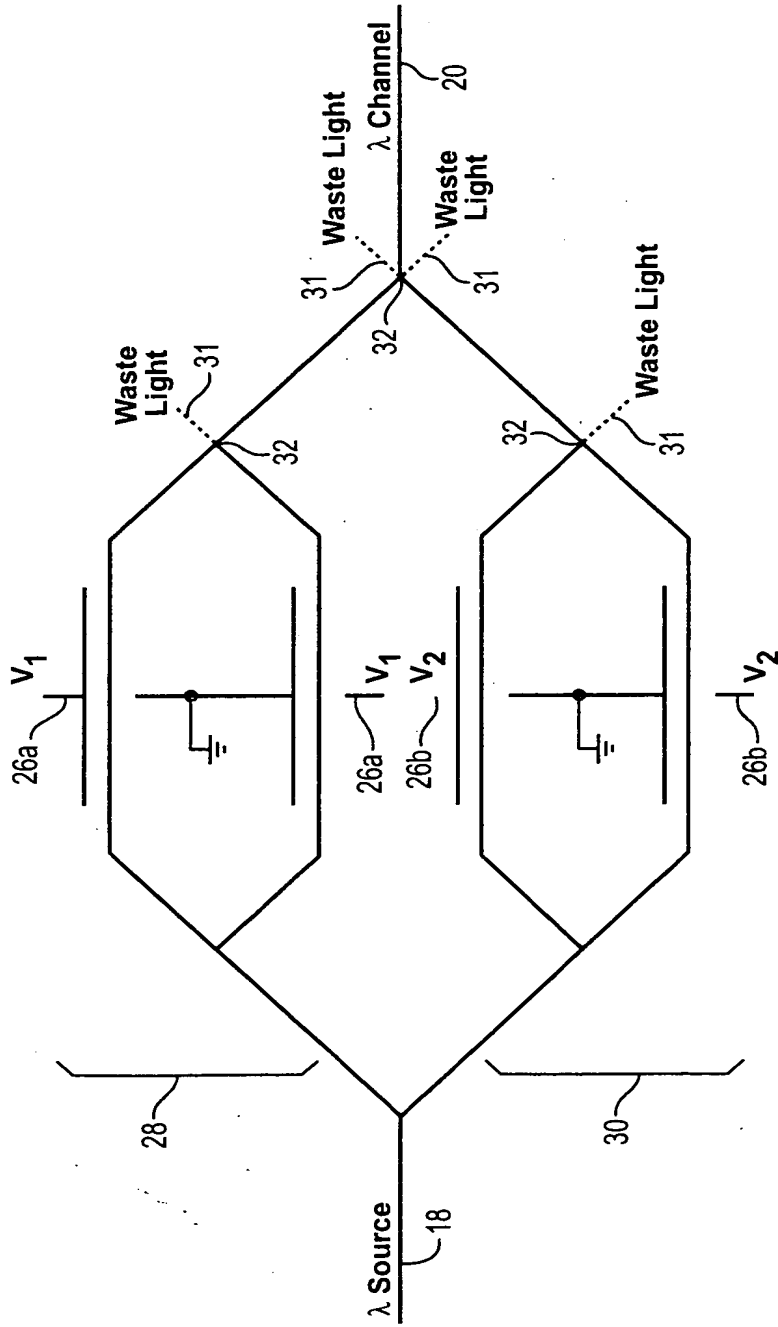


FIG. 2

# Mach-Zehnder Device Transfer Function

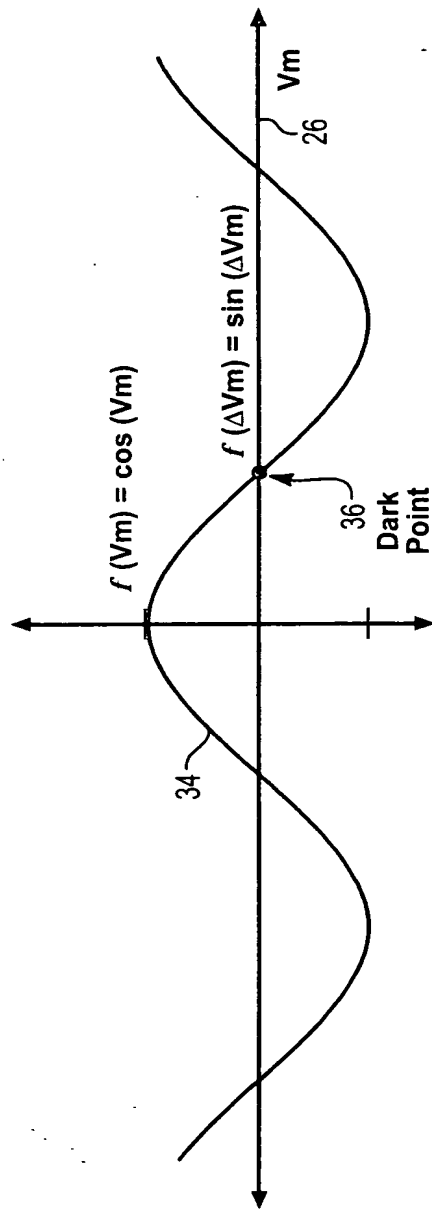


FIG. 3

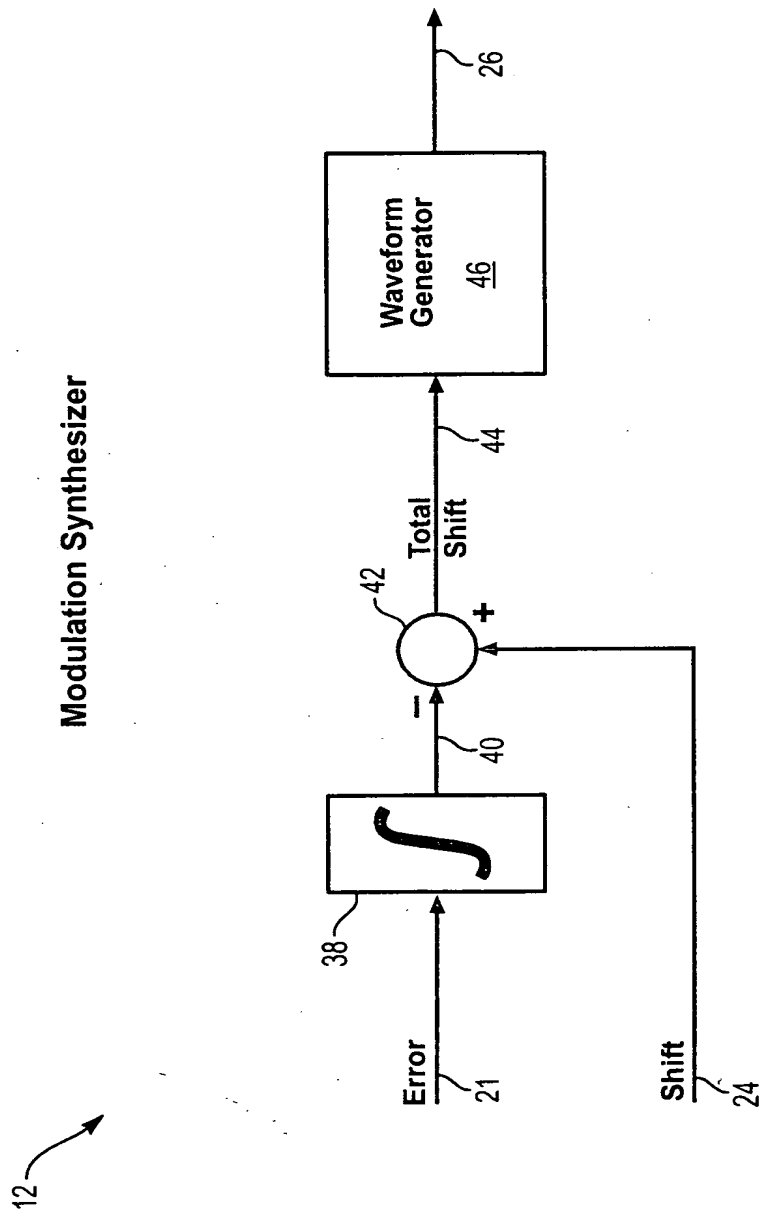


FIG. 4

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# Quadrature Modulation Synthesizer (With On/Off Data Keying)

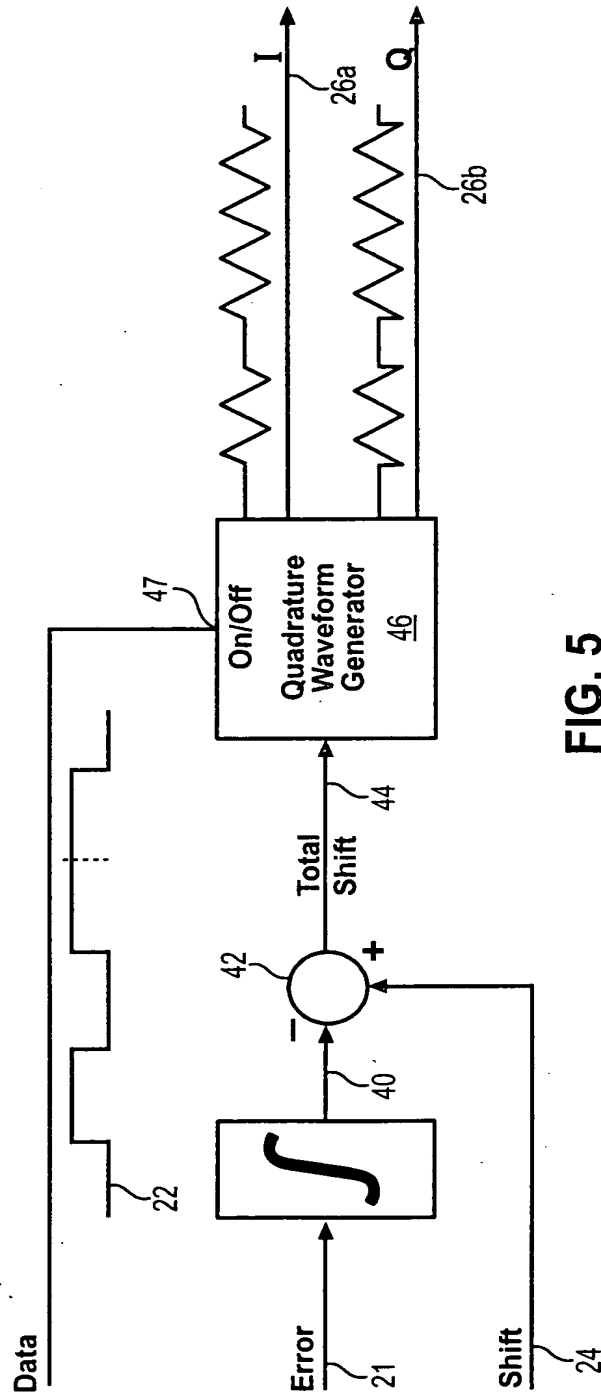


FIG. 5

the first and second signals are applied to the first and second electrodes of the device.

### Phase Modulation Device

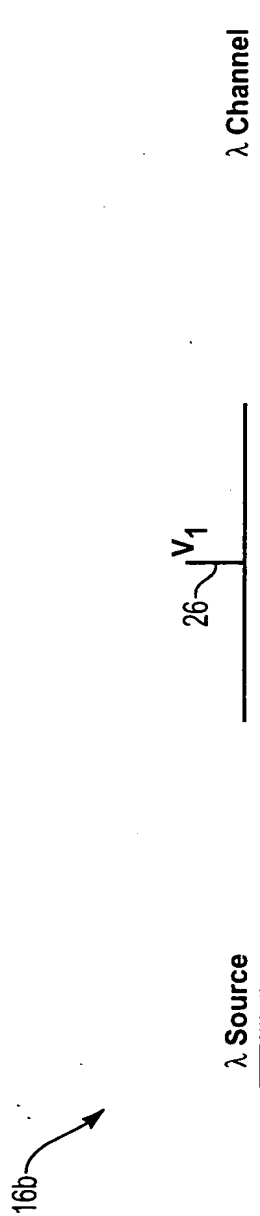


FIG. 6

# Modulation Synthesizer (With Frequency Shift Keying)

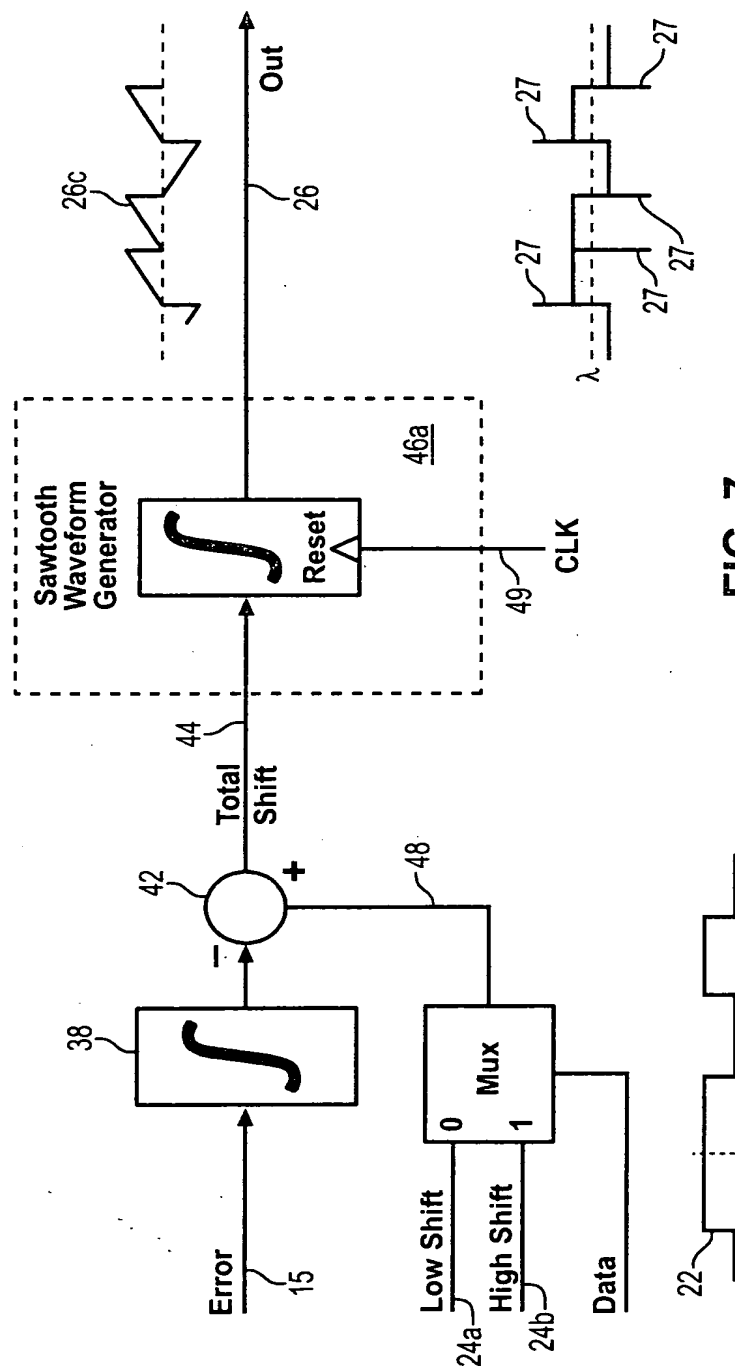


FIG. 7

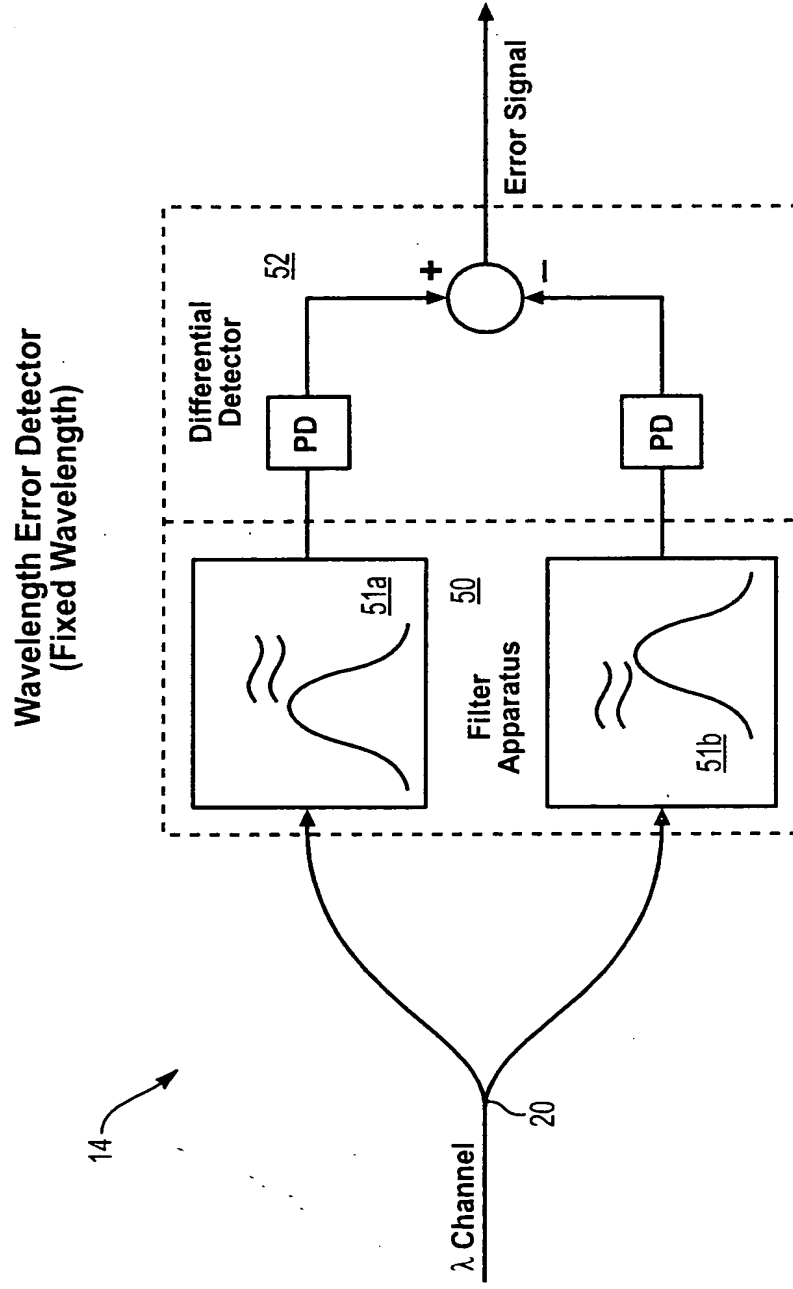
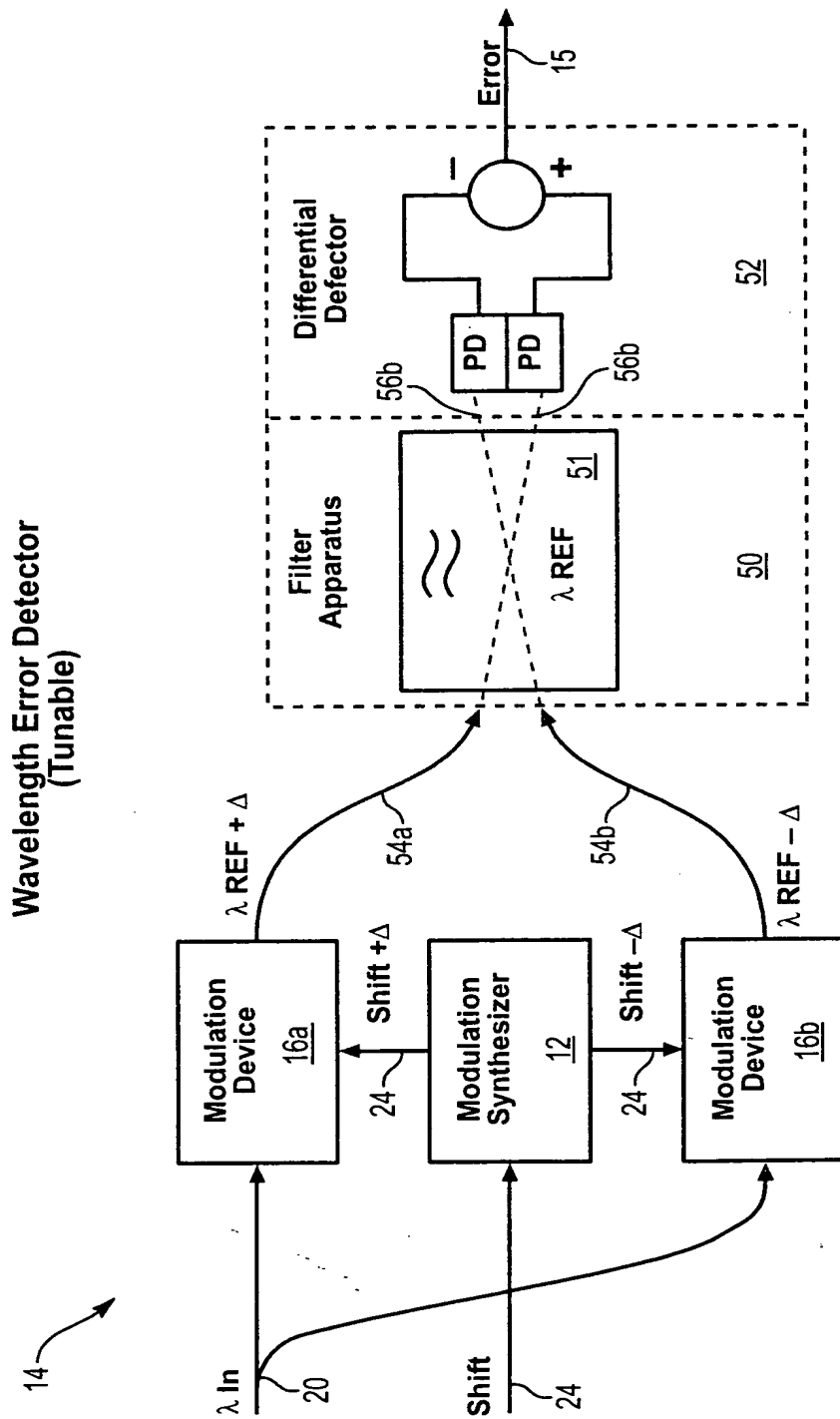


FIG. 8





**FIG. 9**

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# Wavelength Error Detector (Tunable)

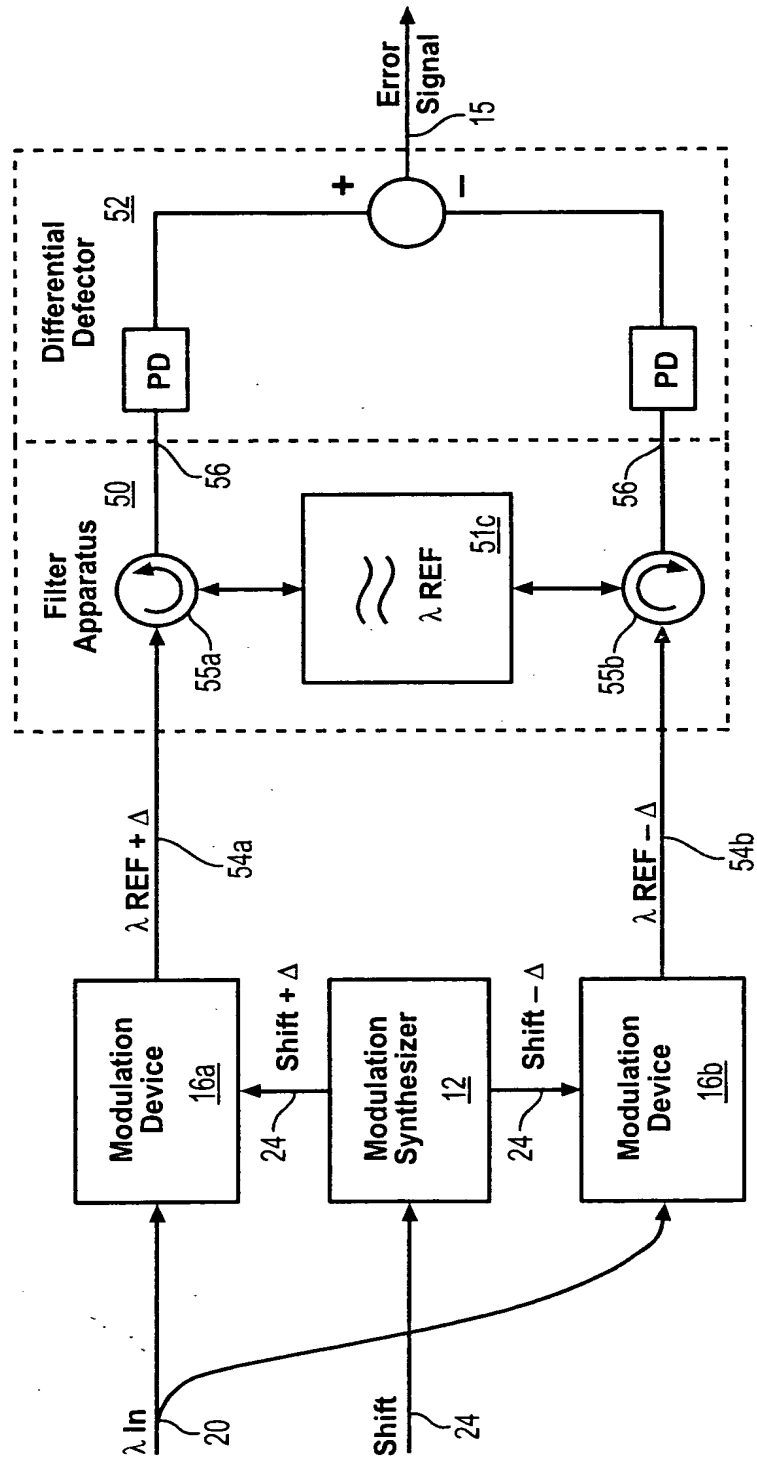


FIG. 10

# Channel Allocation Mechanism

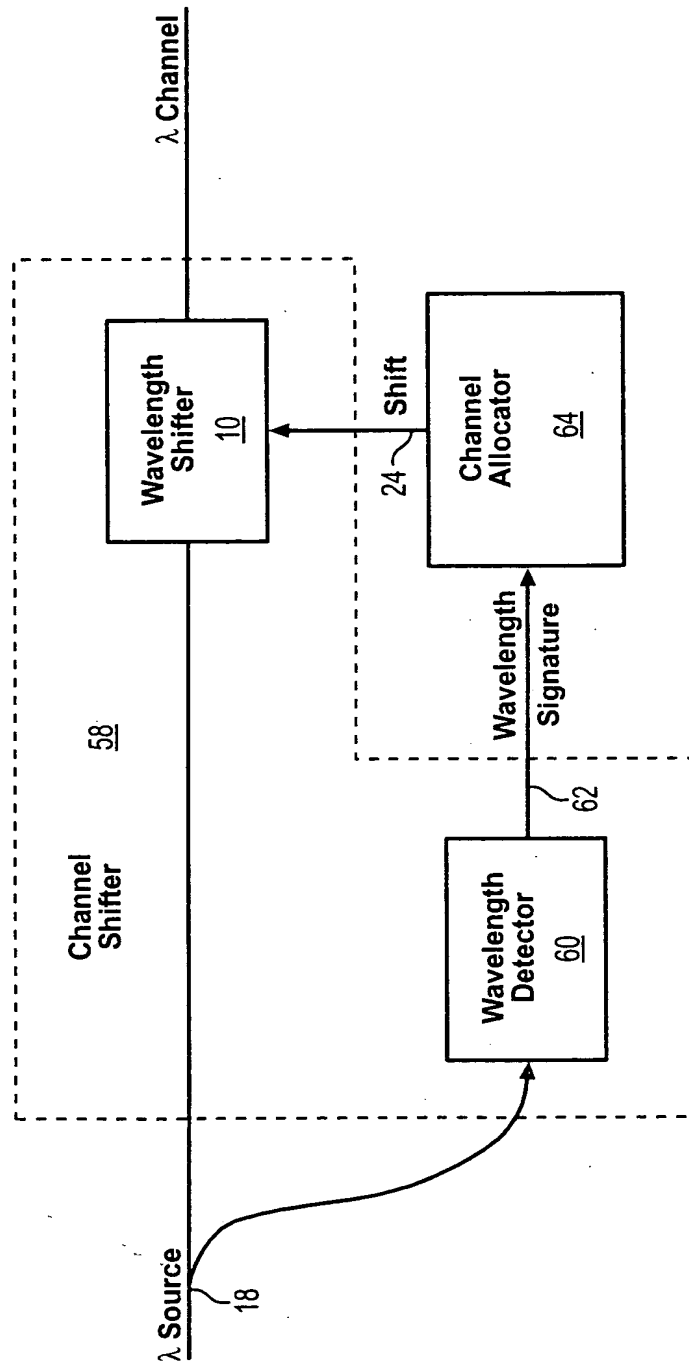


FIG. 11

FIG. 12 is a block diagram of a Tunable Wavelength Stabilized Transmitter.

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# Tunable Wavelength Stabilized Transmitter

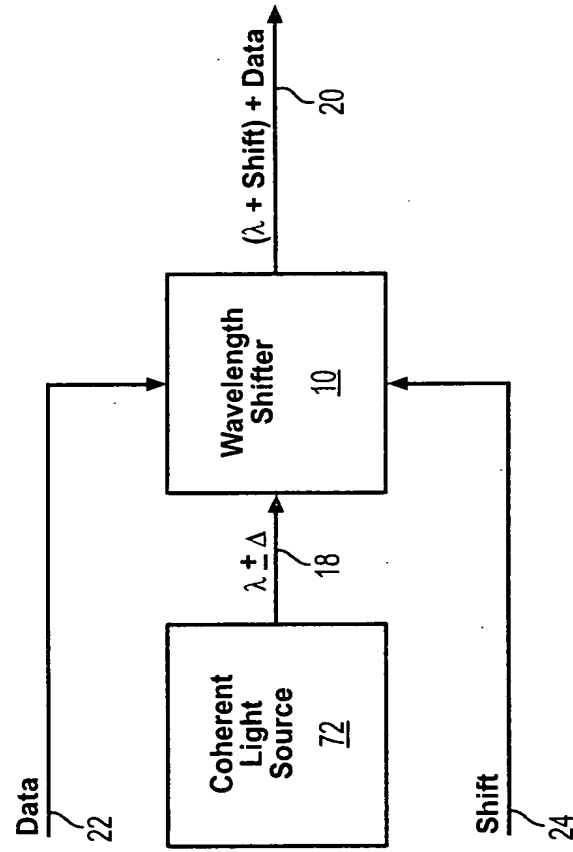
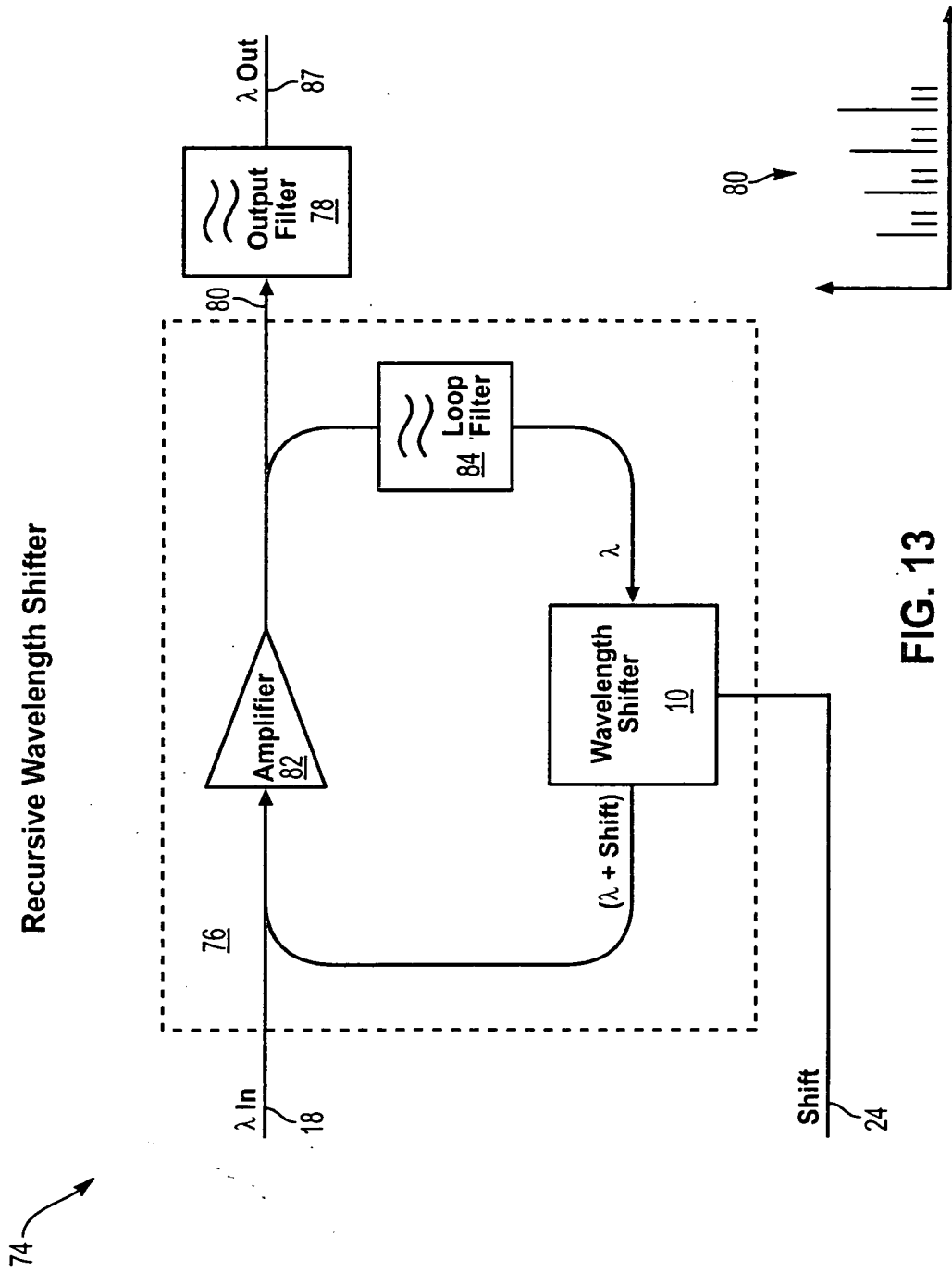


FIG. 12



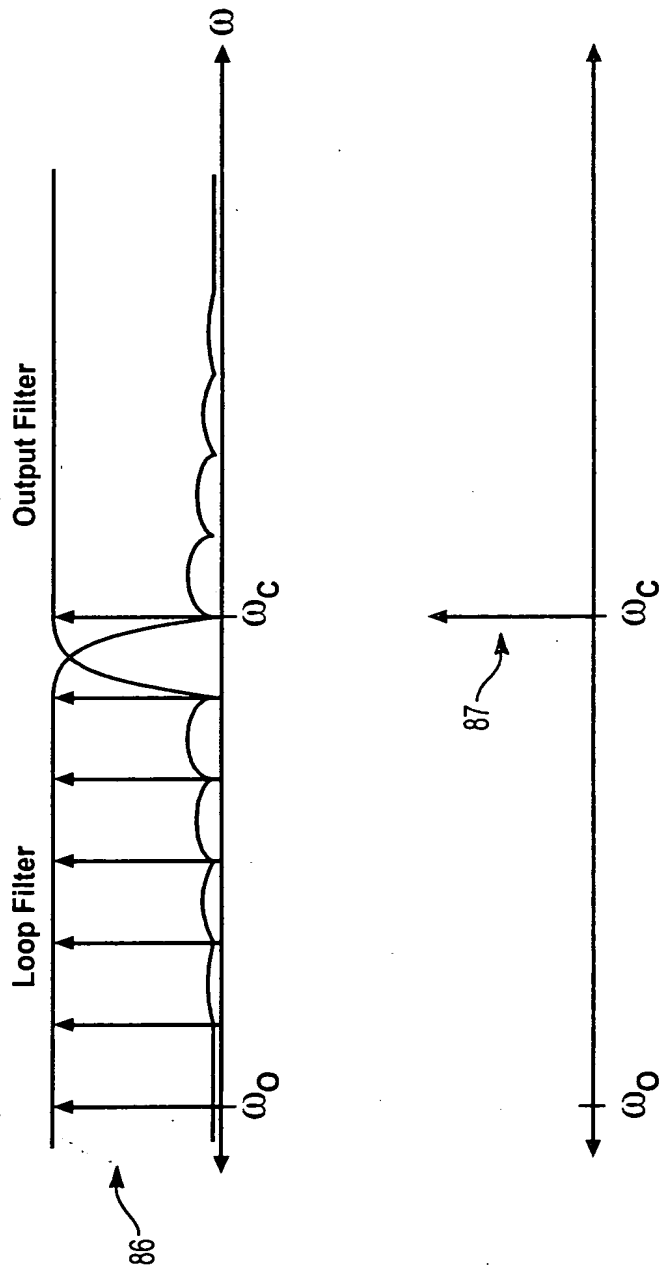


FIG. 14